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ABSTRACT

The effectiveness of using the Language Master to emphasize reading skills with 10 students (ages 7 to 13 years) in a special class for the mentally retarded was evaluated. Nine behavioral objectives were formulated in the areas of improved word recognition, improved understanding of basic concepts, and improved word attack skills. The word-picture program (teaching recognition of nouns, verbs, and basic concepts) and the phonics program (teaching sound blending, consonant blends, and word analysis skills) were utilized as well as teacher made programs. The Slosson Oral Reading Test, the Boehm Test of Basic Concepts, and the Likert Rating Scale were used to objectively analyze achievement of objectives. Seven of the nine objectives were achieved. (Appended are a brief literature review, a listing of materials and equipment, a rating form, an instructional materials evaluation form, and a program calendar. (DB)

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Developing Reading Skills with the Language Master Program

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REGION VI

CENTRAL ARKANSAS EDUCATION CENTER
Markham and Izard Streets
Little Rock, Arkansas 72201

MINI-GRANT PROJECT

TITLE: THE EFFECTIVENESS OF EMPHASIZING READING SKILLS WITH THE LANGUAGE MASTER FOR MENTALLY RETARDED STUDENTS

DATE: 1971-1972

A. Mrs. Carol Schedler
Mini-Grant Recipient(s)

B. Mrs. Violette Johnson
Name of Principal

C. Pine Haven Elementary
Name of School

D. Bauxite School District
Name of School District

E. Dr. Leon Wilson, Dr. Jim Fain, and Mr. Otis Preslar
C.A.E.C. Consultants

I. TITLE: THE EFFECTIVENESS OF EMPHASIZING READING SKILLS WITH THE LANGUAGE MASTER FOR MENTALLY RETARDED STUDENTS

II. READING PROBLEM

A. The Student: There were ten students in this special education class for the mentally retarded. The chronological age of the students ranged from 7 to 13 years.

B. The Problem: All of the students were mentally retarded which indicates that all were functioning two or more years below the normal student in a regular classroom. These students have had an abundance of failure experiences; man of them develop compensating, aggressive, or withdrawing behavior in activities associated with reading. The learning of reading becomes a greater problem after such tendencies as mentioned become evident.

The rate of development is slow and much repetition is necessary to reinforce learning. Mentally retarded students need help in understanding the most elementary ideas. It is never safe to assume that they understand concepts.

It would be desirable for the children to assume an independent awareness of the joy of reading for information and pleasure. These children, generally cannot read in that way; so they must be trained to read for safety and protection. Those that can learn basic skill reading will need many varied approaches to reading. (See Appendix A for Review of Related Literature.)

III. PROGRAM FOR INSTRUCTION

A. Behavioral Objectives

OBJECTIVE NO. 1: Students in the MR class, receiving supplemental instruction in reading skills with Language Master programs will be able to demonstrate significant gains in grade placement for reading as measured by pre- and post-testing with the Slosson Oral Reading Test.

OBJECTIVE NO. 2: Students in the MR class, receiving supplemental instruction in reading skills with Language Master programs will be able to demonstrate significant gains in knowledge of basic concepts related to space, time, and quantity as measured by pre- and post-testing with the Boehm Test of Basic Concepts.

OBJECTIVE NO. 3: Students in the MR class, receiving supplemental instruction in reading skills with Language Master programs will be able to demonstrate significant gains in knowledge of ten weakest basic concepts related to space, time, and quantity, as measured by pre- and post-testing with the Boehm Test of Basic Concepts.

OBJECTIVE NO. 4: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Nouns and Everyday Things, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

OBJECTIVE NO. 5: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Verbs, Action Words, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

OBJECTIVE NO. 6: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Basic Concepts, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

OBJECTIVE NO. 7: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Sound Blending and Beginning Phonetic Skills, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

OBJECTIVE NO. 8: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Consonant Blends and Irregular Phonetic Elements, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

OBJECTIVE NO. 9: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Word Building and Word Analysis Technique, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

B. Strategies: A word-picture program and a phonics program were chosen for use by students in the project. These programs were developed especially for use with the Language Master teaching machine developed by Bell and Howell.

The Word-Picture Program contains three sets of 200 cards each which teach (1) mouns and everyday things, (2) verbs, action words, and (3) basic concepts. The Phonics Program likewise contains three sets of 200 cards each which teach (1) sound blending and beginning phonetic skills, (2) consonant blends and irregular phonetic elements, and (3) word building and word analysis technique.

The Language Master teaching machine provides the teacher with an opportunity for creativity. Not only can the teacher employ the pre-printed and pre-recorded Language Master cards in a variety of applications, but she also has a limitless opportunity to improvise, to creat, and to innovate with the various formats of blank cards. For example, certain concepts were introduced such as time having two ways of statement, as two-thirty, or half past two. The introduction and drill for this concept was not broad enough in the text explanation, so the students themselves would make time cards to reinforce the learning. Younger children would listen to the cards and wirk with them giving them an introduction to a con-

cept previously uncovered. This would create an interest in new learning for this group, while reinforcing learning in another group. The group of "teachers" would get a feeling of self-worth.

At other times a concept would elude the student. In that case, a program would be invented to help in rote learning.

Many programs were established to expand the sight vocabulary of the students. Words and pictures would be studied and work review sheets would be filled out to see how much retention was had. This was the most successful use of the machine. Each day a contest would be informally had between the students to see who could finish the work sheet without help.

Often, in connection with the viewing of the Electric Company a concept would be introduced which would spur the interest of the students to find more examples. This was the primary use of the Phonics Program. When compound words were discussed the children wanted to find more and more; when the two sounds of "c" were introduced, the children searched the program to find more words, ran them through the machine and learned.

The amount of time spent on the machine work depended upon the needs of each student. Some were capable of only listening and looking. They spent the shortest period of work and needed help filling out the worksheet. Older students listened harder, recorded their voices, attempted to memorize words by covering the pictures and did the worksheets successfully without another viewing.

A more complete description for each of the programs, which were selected for this program, is provided on the following page. (See Appendix B for source of materials and equipment.)

word-picture program

SET 1/NOUNS AND EVERYDAY THINGS

Each card in this set contains both the printed word and its accompanying picture. Each of the words in this set is used in a phrase and a sentence in the Language Stimulation Program. 200 cards.

SET 2/VERBS, ACTION WORDS

Each card in this set contains both the printed word and its accompanying picture. The first 50 cards contain numerals, the alphabet, clock faces, and geometric patterns. The remaining 150 cards present commonly used verbs in complete sentences, accompanied by simple, illustrative drawings. 200 cards.

SET 3/BASIC CONCEPTS

Each card in this set contains both the printed word and its accompanying picture. Included are vital and extremely basic words in everyday use, accompanied by drawings. 200 cards.

the phonics program

SET 1/SOUND BLENDING and BEGINNING PHONETIC SKILLS

The material of this set covers final consonant discrimination, short vowel discrimination, long vowel (with final e), long and short vowel discrimination, and vowel digraphs. 200 cards.

SET 2/CONSONANT BLENDS AND IRREGULAR PHONETIC ELEMENTS

This set contains letter confusions, word confusions, sentences, vowels modified by "r", diphthongs, common sound families, discriminations (sh-ch) and (m-n). 200 cards.

SET 3/WORD BUILDING and WORD ANALYSIS TECHNIQUE

This set presents the hard and soft "c" and "g", (w-wh), th (voiced and unvoiced), compound words, suffixes, prefixes, syllabication, irregular consonants (ch=k), (wr=r), (kn=n); and homonyms. 200 cards.

IV. EVALUATION

A. Measurement:

1. Slosson Oral Reading Test: administered individually both at the beginning and end of the project period.

2. Boehm Test of Basic Concepts: administered individually both at the beginning and end of the project period.

3. Likert Rating Scale: completed for each student by the teacher upon completion of the learning tasks which the teacher selects within each program. This scale was developed to assess the attainment of objectives four through nine. (See Appendix C.)

4. Likert Rating Scale: completed by the teacher for each of the Language Master programs. (See Appendix D.) A Calendar of Events was made to schedule measuring and reporting. (See Appendix E.)

B. Analysis: A statistical analysis was applied to objectives one, two, and three, to determine the amount of gain between pre- and post-testing and whether or not the gain was significant. Weighted values of one through five were used on the Likert rating scale to determine the degree of success that the students were having in meeting objectives four through nine.

Tables A, B, C, and D, which follow, contain a summary of the data which determined significance or the degree of success for the objectives.

OBJECTIVE NO. 1: Students in the MR class, receiving supplemental instruction in reading skills with Language Master programs will be able to demonstrate significant gains in grade placement for reading as measured by pre- and post-testing with the Slosson Oral Reading Test.

ANALYSIS: The students scored a mean of 0.5 months for achievement on the pre-test. On the post-test, the mean score was 0.8 which was a gain of 0.3 months. A t-test for significance with the difference score method found that the gain could not be considered significant statistically. According to the statistical data from the Slosson Test, the objective was assessed as being unachieved. (See Table A.)

OBJECTIVE NO. 2: Students in the MR class, receiving supplemental instruction in reading skills with Language Master programs will be able to demonstrate significant gains in knowledge of basic concepts related to space, time, and quantity as measured by pre- and post-testing with the Boehm Test of Basic Concepts.

ANALYSIS: An analysis of the scores on fifty test items on the pre-test found that nine students scored 401 points of the 450 possible. In each instant, each student averaged 45 correct answers out of 50 possible. The objective was assessed as being unachieved on the basis of the test data for the fifty items.

OBJECTIVE NO. 3: Students in the MR class, receiving supplemental instruction in reading skills with Language Master programs will be able to demonstrate significant gains in knowledge of ten weakest basic concepts related to space, time, and quantity, as measured by pre- and post-testing with the Boehm Test of Basic Concepts.

ANALYSIS: The ten items on the pre-test were selected because of their frequency of being missed more than others. On the pre-test, these items were scored correct only 48% of the time. On the post-test however, they were scored correct 86% of the time. A t-test was applied with a difference score method, and it was found that the gain was highly significant. (See Table B.) The objective was assessed as being achieved.

TABLE A

Bauxite Pine Haven Elementary School

Slosson Oral Reading Test

1971-1972

Student	Grade Equivalent Pre-Test	Post-Test	Gain[a]
1	0.6	1.1	5 mo.
2	0.4	1.0	6 mo.
3.	0.7	0.8	1 mo.
4	0.3	0.9	6 mo.
5	0.1	student left	
6	0.0	0.2	2 mo.
7	0.7	0.8	1 mo.
8	1.3	1.4	1 mo.
MEANS	0.5	0.8	0.3

[a]A t-test was applied where N = 7 - 1. The t-value (0.647) obtained was far less than the 1.943 required for significance at the .05 level of probability for a one-tail test.

TABLE B

Bauxite Pine Haven Elementary School

Boehm Test of Basic Concepts

Ten Concepts Most Frequently Missed

Concepts Most Frequently Missed	Percent Answering Correctly		
	Pre-Test	Post-Test	Gain[a]
47. Equal	20	88	68
50. Least	20	63	43
45. Pair	40	75	35
28. Side	50	100	50
46. Skip	50	75	25
48. In Order	50	88	38
49. Third	50	88	38
24. Almost	60	100	40
26. Center	60	75	15
33. Never	60	100	40
36. Always	60	100	40
37. Medium Sized	60	88	28

[a]A t-test was applied where N = 10 - 1. The t-value (12.267) was far greater than the 1.833 required for significance at the .05 level of probability for a one-tail test.

OBJECTIVE NO. 4: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Nouns and Everyday Things, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

ANALYSIS: The students scored a mean rating of 4.6 of a possible 5.0 points. (See Table C.) The objective was assessed as being achieved.

OBJECTIVE NO. 5: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Verbs, Action Words, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

ANALYSIS: The students scored a mean rating of 4.6 of a possible 5.0 points. (See Table C.) The objective was assessed as being achieved.

OBJECTIVE NO. 6: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Basic Concepts, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

ANALYSIS: The students scored a mean rating of 4.6 of a possible 5.0 points. (See Table C.) The objective was assessed as being achieved.

OBJECTIVE NO. 7: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Sound Blending and Beginning Phonetic Skills, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

ANALYSIS: The students scored a mean rating of 3.6 of a possible 5.0 points. (See Table C.) The objective was assessed as being achieved.

OBJECTIVE NO. 8: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Consonant Blends and Irregular Phonetic Elements, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

ANALYSIS: The students scored a mean rating of 3.6 of a possible 5.0 points. (See Table C.) The objective was assessed as being achieved.

OBJECTIVE NO. 9: Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Word Building and Word Analysis Technique, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.

ANALYSIS: The students scored a mean rating of 3.3 of a possible 5.0 points. (See Table C.) The objective was assessed as being achieved.

V. CONCLUSIONS

Although not all of the objectives were achieved according to the evaluation instruments, the results from the project were generally positive for the students.

TABLE C

Pine Haven Elementary School

Likert Rating Scale Outcomes

Objectives 4-9

Objective Number	SA 5	A 4	U 3	D 2	SD 1	Mean Rating
4	25	12				4.6
5	25	12				4.6
6	25	12				4.6
7	5	12	12			3.6
8	5	12	12			3.6
9	5	8	12		1	3.3

An application of a rating scale for special education instructional materials, as developed by the University of Texas, found that the materials rated an average of good to excellent. (See Table D, which follows, and Appendix D.)

Language Master programs should be selected from the several programs for the children on the basis of need. The teacher would be able to make more effective use of the programs if she could obtain a listening station which would enable more than one child to be involved with program activities.

TABLE D

Pine Haven Elementary School

Likert Rating Scale Outcomes*

for

Language Master Programs

	Poor	Fair	50-50	Good	Excellent
Curriculum Emphasis	___	___	___	___	X
Content	___	___	___	___	X
Appropriateness	___	___	___	X	___
Instruction	___	___	___	X	___
Physical Characteristics	___	___	___	X	___
Mean Rating	___	___	___	X	___

* Rating categories based on evaluation of special education instructional materials by the University of Texas, Austin.

APPENDIX A

Amy A. Allen states that activities for the mentally retarded students should reinforce visual, auditory, touch, taste, smell, and motor aspects of concept. In teaching reading, a wide variety of experience and activities are needed so that mentally retarded students have repeated but not monotonous contact with the concepts being developed.

Amy Allen and Virginia Baker, in SLOW LEARNING CHILDREN IN OHIO SCHOOLS have stated that in general, since the retarded child moves from 1/2 to 3/4 of normal speed, the kinds of educational materials frequently used in regular classes will not be geared to meet his needs. The teacher then must find materials to fit his pace.

Al Tudyman, director of the Department of Special Education for the public schools of Oakland, California states that irregularities found in mentally retarded and neurologically impaired children directly affects their ability to read. Visual difficulties, eye preference, visual discrimination and memory as well as spanning problems are more prevalent among the mentally retarded, and the more materials that can be presented the more thoroughly they can be educated.

APPENDIX B
(Materials and Equipment)

All-State Supply, Inc.
1212 E. Sixth Street
Little Rock, Arkansas 72203

Quantity	Description
1	Language Master (Bell & Howell Co.)
	Word Picture Program
1	Set 1: Nouns and Everyday Things (1-3)
1	Set 2: Verbs, Action Verbs (1-3)
1	Set 3: Basic Concepts (1-3)
	Phonics Program
1	Set 1: Sound Blending and Beginning Phonetic Skills
1	Set 2: Consonant Blends and Irregular Phonetic Elements
1	Set 3: Word Building and Word Analysis Techniques
1	Program Builder Kit

Benefic Press
10300 West Roosevelt Road
Westchester, Illinois 60153

Quantity	Description
1	Study Scope Program - Reading (Special Education Package)

RATING FORM
FOR
Objectives of Mini-Grant Project
Bauxite Elementary School
1971-1972

Please read and rate the objectives which follow by using the five point scale to indicate how strongly you agree or disagree that students have met the stated objectives. Five (5) is the highest rating; one (1) is the lowest rating where the degrees on the scale are defined as:
5 = SA (Strongly Agree); 4 = A (Agree); 3 = U (Undecided); 2 = D (Disagree); 1 = SD (Strongly Disagree)

Objectives 4 - 9	SA 5	A 4	U 3	D 2	SD 1	Comments
4. Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Nouns and Everyday Things, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.	—	—	—	—	—	
5. Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Verbs, Action Words, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.	—	—	—	—	—	
6. Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Basic Concepts, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.	—	—	—	—	—	
7. Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Sound Blending and Beginning Phonic Skills, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.	—	—	—	—	—	
8. Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Consonant Blends and Irregular Phonetic Elements, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.	—	—	—	—	—	

APPENDIX C

Objectives 4 - 9	SA 5	A 4	U 3	D 2	SD 1	Comments
9. Students in the MR class, receiving instruction in reading skills with the aid of the Language Master program, Word Building and Word Analysis Technique, will be able to demonstrate acceptable performance of the learning tasks as measured by a Likert rating scale.	___	___	___	___	___	

APPENDIX D

The University of Texas at Austin
SPECIAL EDUCATION INSTRUCTIONAL MATERIALS CENTER

Evaluation Form for User of Instructional Materials

Directions: On the following selected variables please indicate the effectiveness of this material for your instructional group by marking a point on the continumm, to the right of the statement, ranging from "Poor" to "Excellent", which best represents your evaluation. Should a statement not apply, please place a check on the line labled "Not Applicable". Space for comments is provided for information which you think might be of value to other teachers or users of this material.

Title _____

	Poor				Excellent	N A
Curriculum Emphasis:						
1. Correlates with other phases of curriculum	___	___	___	___	___	___
2. Helps accomplish objectives of curriculum	___	___	___	___	___	___
Content:						
3. Organized for sequential development of concepts/skills	___	___	___	___	___	___
4. Opportunities provided for practice and maintenance of concepts/skills	___	___	___	___	___	___
5. Provisions made to evaluate progress	___	___	___	___	___	___
6. Opportunities provided for exploration, problem solving, and/or discovery	___	___	___	___	___	___
7. Allows flexibility, provided for individual differences	___	___	___	___	___	___
8. Has continued value and use	___	___	___	___	___	___
9. Is multi-sensory in approach	___	___	___	___	___	___
Appropriateness:						
10. Content	___	___	___	___	___	___
11. Interest Level	___	___	___	___	___	___
12. Reading Level	___	___	___	___	___	___
13. Vocabulary	___	___	___	___	___	___
14. Graphic Illustrations	___	___	___	___	___	___
Instructions						
15. For the teacher are clear, concise, and easily understood	___	___	___	___	___	___
16. For the student are appropriate and easily followed	___	___	___	___	___	___
17. Allow independent use by student	___	___	___	___	___	___
Physical Characteristics:						
18. Format	___	___	___	___	___	___
19. Type size, paper, binding, material used in construction	___	___	___	___	___	___
20. Size, number of parts, portability	___	___	___	___	___	___
21. Durability	___	___	___	___	___	___

CALENDAR OF EVENTS: BAUXITE SCHOOL DISTRICT (Pine Haven Elementary School)

Mrs. Carol Schedler: "The Effectiveness of Emphasizing Reading Skills with the Language Master Material for Mentally Retarded Students."

Target Date	Events: Activities, Materials, & Facilities	Person(s) Responsible	Completion Date
9/71	Pre-Test: Administer Boehm Test of Basic Concepts	Schedler	9/24/71
9/71	Post-test: Administer Slosson Oral Reading Test		9/22/71
5/72	Post-test: Administer Boehm Test of Basic Concepts	Schedler	5/19/72
5/72	Post-test: Administer Slosson Oral Reading Test	Schedler	5/19/72
6/1/72	FINAL REPORT: Revise the strategies, answer the objectives, state conclusions and recommendations	Schedler	

APPENDIX E